REASON ONE

By Kimball Thomson

Clusters of Impact

Leveraging Utah's Strengths to Create Critical Mass and Sustainable Advantage

UTAH. The name conjures images of ski slopes covered in powder—"The Greatest Snow on Earth." Sundance, the Mecca of independent film. Cedar City's Tony Award-winning Utah Shakespearean Festival. Majestic spires atop the white granite temple in the center of the state's capital city. Mystical, multi-colored canyons and mountain biking trails. Clearly, Utah is a recreation destination.

What is less well known is that Utah is also a world-class destination for business innovation. One of the leading creation capitals for computer graphics, word processing and computer networking is now home to pioneering genetics, medical devices, drug delivery systems, software development in multiple domains, and numerous other industries.

Innovation does not occur in a vacuum. Companies that develop new categories of products and services tend to gather in close proximity to other organizations engaged in similar or complementary pursuits and to supporting sources of infrastructure that nourish their growth.

Recognizing these realities, Gov. Jon Huntsman Jr. and his administration are in the process of establishing the Utah Cluster Initiative, which seeks to focus attention and resources in areas of the greatest market potential and sustainable competitive advantage.

THE POWER OF CLUSTERS

One of the most significant contributions government can make to economic development is to bring together leaders from the business community and research universities to identify areas of sustainable competitive advantage for Utah, says Martin Frey, managing director of economic development for the Governor's Office of Economic Development. "Identifying and leveraging economic industry 'clusters' is a powerful tool for maximizing human and capital resources in the areas of our greatest strength and economic impact," he says.

Clusters, a term introduced by Harvard professor Michael Porter and popularized during the 1980s and 1990s, can be described as a geographic concentration of similar or complementary industries that gain performance advantages through proximity and interaction with one another.

Throughout much of 2005, the Huntsman administration has engaged in productive collaboration with leading Utah researchers, industry executives and entrepreneurs to identify the state's strongest potential industry clusters. To this end, the state has hosted energetic CEO summits and engaged high level task forces. "Our plan is to focus attention, energy and resources to help establish and brand Utah and its companies as world leaders in key targeted industries," says Frey. "This will allow us to leverage our existing strengths and global market opportunities to build and sustain economic growth and market leadership."

According to Dr. Greg Jones, Utah's state science advisor and leader of the State of Utah's Clusters Initiative, cluster formation will help maximize resources and build focus and momentum through the alignment of ideas, capital, research, workforce, businesses, education and government around Utah's core competencies, infrastructure and resources.

The Governor's Office of Economic Development will become the catalyst to align necessary resources, infrastructure and policies that contribute to successful economic clusters. The key is to align industry, research universities, capital, talent, technology and government around industry sectors that possess the greatest opportunity and return on investment for the State.

"Strong industry clusters will produce direct and tangible benefits for individuals, families, schools and businesses in the state," says Jones. Some of the primary benefits include:

- Instant access for businesses to an experienced workforce and suppliers, customized services, and critical business resources
- Collaborative opportunities that enable organizations to achieve economies of scale, access new

UTAH ECONOMIC CLUSTERS

GOED will initially focus on economic clusters in emerging or mature sectors with significant core competencies and market potential. Many of the clusters will impact every corner of the state.

Thus far, GOED has identified industry clusters in a number of areas in which Utah has traditional strengths and substantial growth potential. "We still have ground to cover in specifying the clusters, but we feel good about the areas we've developed thus far," says Jones.

Life Sciences:

Drawing upon the world's largest genealogical database and a legacy of innovation in genetics, biotech and medical devices, the Clusters Initiative will explore such areas as personalized/predictive medicine; genetics & biomarker development; pharmacological research & clinical services; neuroscience; medical devices & products; microbe biotechnology; environmental & agricultural technology & remediation; and cellular systems (nutrition & infectious diseases).

Software Development & Information Technology:

Potential clusters in these areas include: systems management & security; Web services & software applications; wireless technologies; digital media & entertainment technology; high-performance computing applications such as simulations, images, modeling & algorithms; and GIS mapping & imaging.

Aerospace:

Clusters in this mature industry might include: composites & advanced materials; propulsion systems; and communications & avionics.

Defense & Homeland Security:

Potential clusters in this national growth industry include smart sensors & chemical/biological detection and autonomous systems.

Financial Services:

This cluster would seek to extend Utah's global leadership in the industrial banking (industrial loan companies, or ILCs) industry.

Energy & Natural Resources:

Possible clusters in this crucial sector include energy independence; mining & mineral technology; and water management.

In addition to these industry clusters, the Clusters Initiative will seek to establish clusters in competitive accelerators and supporting infrastructure that further the growth of other clusters. These include advanced manufacturing; logistics & distribution centers; networking infrastructure; nanotechnology; quality of life categories such as nutraceuticals and other personal wellness products; outdoor recreation; and family related products and services.

distribution systems and increase revenues and profitability

- Improved ability for universities to attract targeted research funds and high quality prospective students

In the end, adds Jones, "Effective clusters will help provide more abundant, higher paying jobs, greater educational opportunities and a higher standard of living."

COMPONENTS OF SUCCESSFUL CLUSTERS

Feedback from Utah CEOs from a variety of industries and institutions of higher learning about what they need in order to successfully develop their respective clusters include the following six fundamental concerns:

- Raising early stage capital
- Dealing with rising health care costs
- Recruiting experienced talent
- Access to networking and partnering opportunities
- Improved alignment between educational research institutions and industry
- Presenting a positive and accurate image of Utah

The concerns of Utah's industry and education leaders are consistent with the findings of a major 2004 survey by Ecotec, a research firm based in the United Kingdom, which identified the most important characteristics of successful clusters. The three most important determinants were present in more than two of three instances of successful clustering. Ecotec found that more than 75 percent of successful clusters enjoy strong networking partnerships between regional businesses; more than 70 percent had access to both innovative technology and to human capital.

The next strongest correlating characteristics were present in more than one third of successful clusters. More than 40 percent had strong physical infrastructure; 40 percent were characterized by the presence of large firms; in excess of 35 percent of the clusters that succeeded had a strong foundation of entrepreneurship that manifested itself in enterprises; and approximately 35 percent enjoyed relatively plentiful access to investment capital.

CLUSTER SUPPORT INITIATIVES

To address the concerns of the state's CEOs and help foster the essential components of cluster-driven economic development, the Governor's Office of Economic Development has placed greatest priority on the following initiatives:

Networking Partnerships among Utah Businesses:

Primary responsibility will be shared by the Clusters Initiative, led by Utah science advisor Greg Jones; the Utah Procurement Technical Assistance Center, led by program director Fred Lange, which helps Utah organizations obtain government funding; and the Industrial Incentives Program, led by program director Mike Nelson, which provides incentives for Utah companies to create high level professional jobs in the state.

Access to Innovative Technology:

This priority will be addressed by the Centers of Excellence Program, led by program director Nicole Toomey-Davis, which provides assistance in

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commercializing promising university-related technologies; and by Industry Driven Research, led by Jones.

Access to Human Capital:
Supported by Science Camps for middle school and high school students, led by Jones; Science and Technology Graduate Incentives, led by Jones; and the State of Utah's Talent Acquisition Program (TAP), led by program director Patricia Vaughn.

Physical Infrastructure:
Supported by the Science and Technology Parks, led by program director Doug Clark, which seeks to help establish technology and business parks capable of becoming "hot spots" to house industry clusters.

Presence of Large Firms:
Supported by the Industrial Incentives Program and the Industrial Assistance Fund, both led by program director Mike Nelson and designed to support the growth of sustainable companies and high paying jobs.

Enterprise Entrepreneurialism:
Supported by Utah Business Links, a comprehensive Web portal designed to provide a one-stop resource for Utah entrepreneurs and companies; and Utah Business Resource Centers, private sector centers with a state charter to provide guidance to help establish small companies on a sound footing. Both initiatives are led by program director Mark Stromberg.

Access to Finance:
Supported by Angel Investing Incentives, led by program director Ned Weinshenker, which will provide incentives for angel investors to fund Utah companies.

THE UTAH CLUSTERS INITIATIVE TEAM

To help support cluster development, Jones and Frey have assembled a team of leaders with a history of successful experience in entrepreneurship and business-government collaboration.

Ned Weinshenker, director of the Life Sciences Cluster, is a serial entrepreneur who has served as CEO of multiple companies. His experience includes leading IOMED through the initial public offering (IPO) process. He has also worked as a venture capitalist in California, and as a professor of organic chemistry.

Marshall Wright, director of business development for the state's Clusters Initiative, is a seasoned executive with significant training and education in technical as well as marketing disciplines. He holds undergraduate and graduate degrees in applied physics, and worked as an engineer before finding his professional home in business development. During his time at L3 Communications, Wright developed more than $100 million in new business.

Gary Harter, director of Utah's Defense and Homeland Security Cluster, retired as a colonel in the U.S. Army. His most recent command was at Dugway Proving Grounds, the nation's primary facility for testing systems and technologies used to respond to chemical and biological threats. During his service, Harter has developed strong relationships with the members of the Utah Congressional delegation.

"We are delighted and astonished by the quality of the professionals who have thus far been attracted to working on the Clusters Initiative," says Jones. "There are also extraordinary individuals we are currently working to recruit."

INDUSTRY SUPPORT

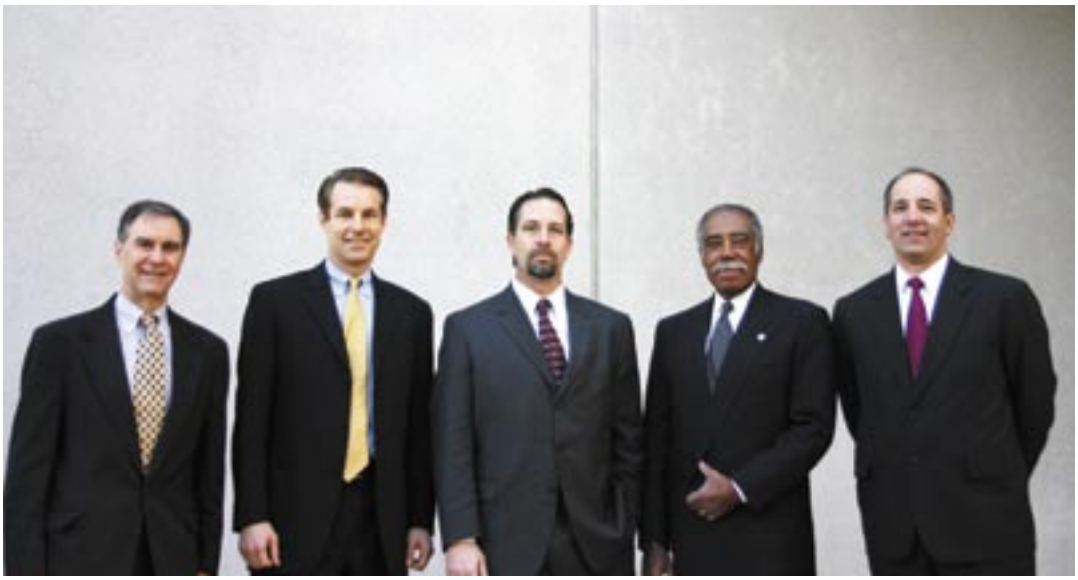
The Huntsman administration's plan is inspiring the confidence of key private sector leaders in Utah. "Utah's cluster strategy today is extremely sound," says Fraser Bullock, managing partner of Sorenson Capital and former COO and CEO for the Salt Lake Organizing Committee during the 2002 Winter Olympic Games. "It addresses human resource needs, approaches economic opportunities in a strategic fashion—focusing on a few areas in which Utah has a proprietary, strategic competitive advantage relative to the rest of the country and even the rest of the world."

"This is a long-term process, but I feel that this administration is taking the steps that will ultimately help Utah companies move to the next level of industry maturation and influence," adds Dinesh Patel, managing director of vSpring Capital.

Industry association leaders also see promise in GOED's approach to building economic clusters. "Governor Huntsman and his team have done an exceptional job of identifying real industry needs," says Richard Nelson, president and CEO of the Utah Technology Counci (UTC). "From the beginning, the administration went to the industry for direction, and has consistently focused on what is most important in supporting industry in the state." UTC, formed through a merger of the Utah Information Technology Association (UITA) and the Utah Life Science Association that represents in Utah's information technology and life science industries.

"The governor and his team have clearly recognized that economic development will be the primary key to ensuring Utah's viability going forward, in terms of job creation, capital formation and funding for education," adds Brian Moss, outgoing president of the former Utah Life Science Association.

Jones recognizes that the Clusters Initiative is at an early stage of development, but expresses confidence in the project's approach and direction: "This initiative is crucial for Utah's long-term economic growth, and we are fully committed to working with the state's industry and education leaders in moving it forward," he says. "It is the key to critical mass and quality of life now and in the foreseeable future."



THE UTAH CLUSTERS INITIATIVE TEAM (L TO R) : NED WEINSHENKER, MARTIN FREY, GREG JONES, MARSHALL WRIGHT, GARY HARTER